

Multiple shoot induction of selected genotypes of *Eucalyptus camaldulensis* Dehn

ABSTRACT

The increasing demand of *Eucalyptus camaldulensis* for its multipurpose values has called forth efforts to produce improved materials of this tree species. Here we study the effects of plant growth regulators (PGRs) on multiple shoot induction and develop a protocol for a workable micropropagation of improved selected genotype of *E. camaldulensis* Dehn. Shoot tips and nodal segments initiated from meristematic region were cultured on Murashige and Skoog (MS) basal medium containing six concentrations of cytokinin i.e. 1.0, 1.5, 2.0, 2.5, 3.0 and 3.5 mgL⁻¹ of 6-Benzylaminopurine (BAP) plus 0.1 mgL⁻¹ of auxin i.e. - Naphthalene Acetic Acid (NAA) or Indole Butyric Acid (IBA). Maximum mean shoot length (8.11mm) and mean shoot number (5.01) were obtained from shoot tips after four weeks of culture compared to the mean shoot length (7.73 mm) and mean number of shoots (4.75) from nodal segments. The best growth in terms of mean shoot length (11.83 mm) and mean number of roots (9.10) was obtained with a combination of 3.0 mgL⁻¹ of BAP and 0.1 mgL⁻¹ of NAA. Protocol developed in this present study can assist in the large scale plantation of *E.camaldulensis* in future.

Keyword: *Eucalyptus camaldulensis*; Multiple shoot induction; Nodal segments; Plant growth regulators; Shoot tips